

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.





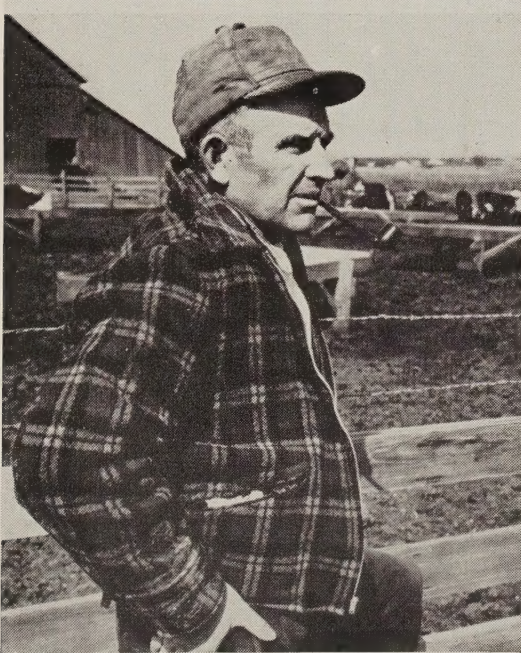
62127

1946

LIBRARY  
RECEIVED  
★ JAN 18 1946 ★  
U S Department of Agriculture



# A Picture Story



# PIONEER

*Hybrid*  
Seed Corn



# PIONEER

# *Never Ending*

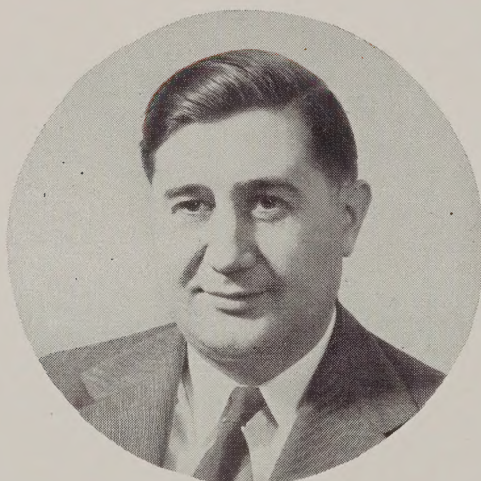
# RESEARCH

CONTINUES TO DEVELOP *New Improved Hybrids*

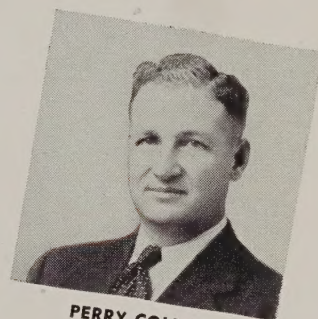
## PIONEER CORN BREEDERS



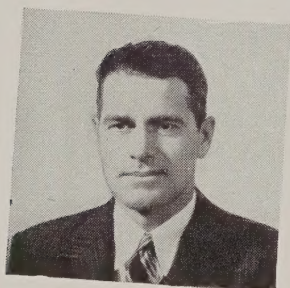
JAMES WEATHERSPOON



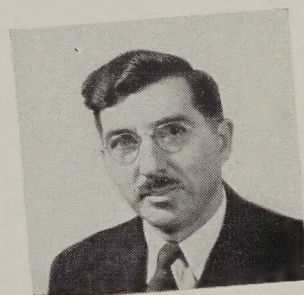
RAYMOND BAKER



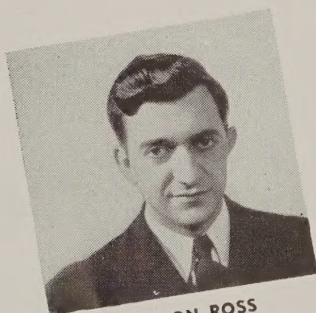
PERRY COLLINS



MELVIN TEMPLE

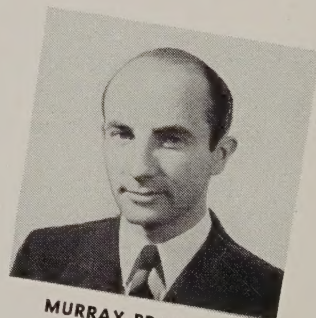


SAMUEL GOODSSELL

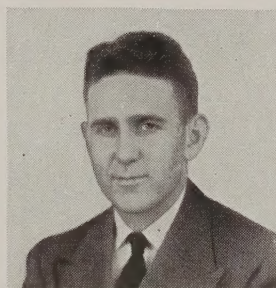


MARION ROSS

The basic foundation of Pioneer seed corn quality . . . and the development of improved new hybrids is dependent upon these corn breeders. Raymond Baker . . . corn breeding specialist for over 15 years . . . directs the Pioneer corn breeding staff of highly trained and experienced scientists . . . each a specialist in his own field.



MURRAY BRAWNER



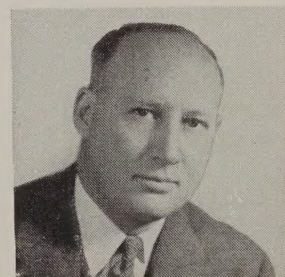
WILLIAM L. BROWN



KARL H. JARVIS



RAY E. SNYDER



A. R. MARSTON

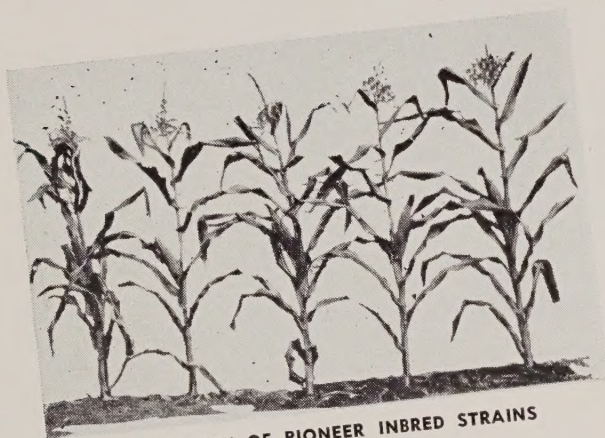


# A COMPLETE CORN BREEDING PROGRAM

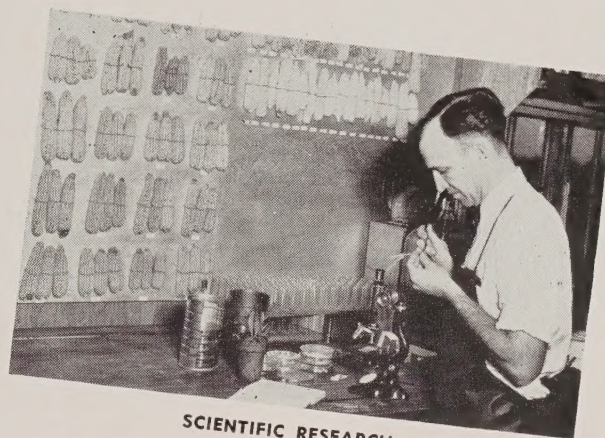
...the key to more productive hybrids...

Pioneer breeding program is never ending — continuing year in and year out — constantly striving to develop new hybrids superior to those now being produced.

A sound breeding program is the foundation of Pioneer quality . . . complete in every detail . . . from the production and selection of the inbreds . . . to the final testing of the hybrids.



UNIFORMITY OF PIONEER INBRED STRAINS



SCIENTIFIC RESEARCH



FIELD OF PARENT CORN



REMOVING TASSEL . . .  
INBRED PLOT



TESTING THE YIELD OF  
EXPERIMENTAL HYBRID

## THE MAIN CORN BREEDING DEPARTMENTS

1. Developing new inbreds
2. Testing inbreds for diseases and insect resistance
3. Testing inbreds for yield, lodging resistance, etc.
4. Testing experimental and commercial hybrids
5. Production of parent corn from those inbreds proven to be consistently outstanding in performance

BETTER PIONEER HYBRIDS... *Come from* ENDLESS RESEARCH



# HAND POLLINATING PLOTS

Pioneer maintains hand pollinating plots in Iowa at Johnston and Algona. Pioneer breeding plots are maintained at Princeton and Harvard, Illinois . . . Poseyville and Tipton, Indiana . . . and Yellow Springs, Ohio.

Approximately 400 inbreds . . . pure lines . . . with 5 or more generations of inbreeding . . . were worked with last season.

280 of these inbreds were developed by and are used exclusively by Pioneer . . . 120 were released for use by various agricultural experiment stations and other corn breeders.

Each year new inbreds are added—after they have completed their development cycle.

Accurate records are kept on the development and performance of each of these inbreds.



INBREEDING A STALK OF CORN



POLLEN BAGS ON TASSELS



## BREEDING and TESTING

...in the Winter...

Extensive testing and breeding research continues during the winter months in greenhouses . . . testing and breeding for resistance to the various corn diseases.

**BETTER PIONEER HYBRIDS... Come from ENDLESS RESEARCH**



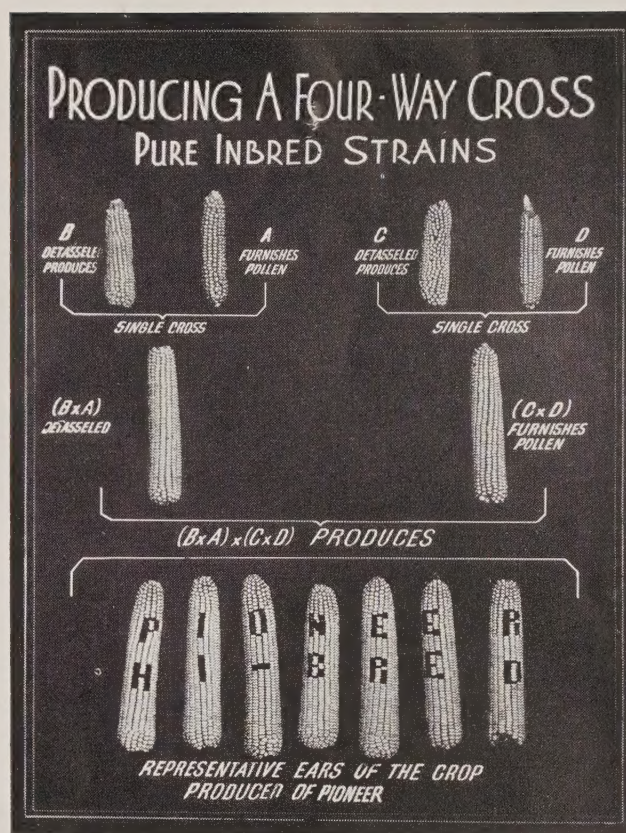
# DEVELOPING

## *Hybrids*

Many combination crosses of inbreds are made each year . . . single-cross . . . three-way cross . . . and double cross.

Out of the many different crosses tried . . . a few are usually found to be superior to those already produced.

Those showing the most outstanding characteristics are selected for further testing.



## CONVERGENT IMPROVEMENT . . . since 1932

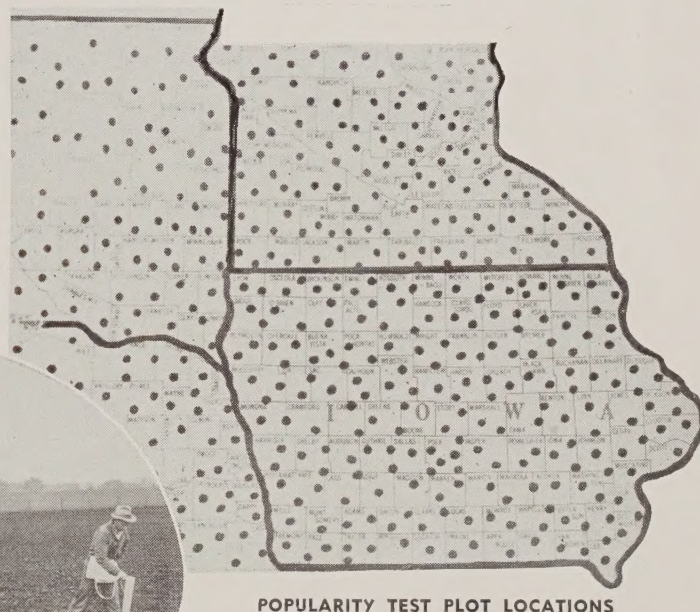
Since 1932 . . . in addition to the regular methods of inbreeding . . . Pioneer has been improving many of the original inbreds by "back-crossing." This method is sometimes known as . . . convergent improvement.

## TEST PLOTS

Over 3,500 crosses are tested each year . . . in replicated, hand planted performance test plots.



HAND PLANTING

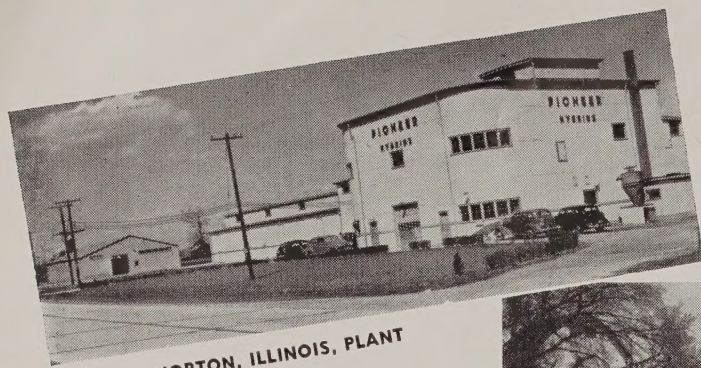


POPULARITY TEST PLOT LOCATIONS

Pioneer experimental hybrids are tested . . . in the farmers' fields . . . in hundreds of popularity test plots . . . usually two or more plots in each county.

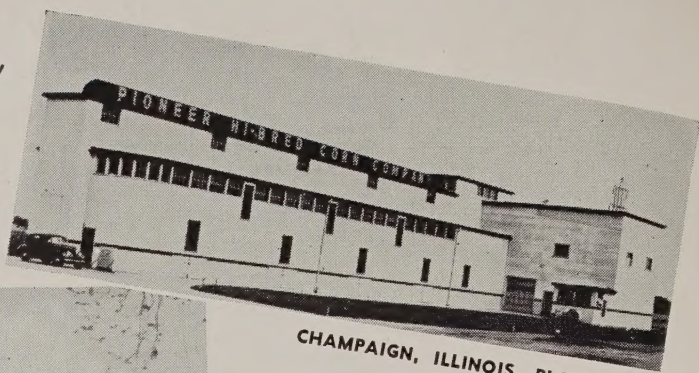
BETTER PIONEER HYBRIDS... Come from ENDLESS RESEARCH





MORTON, ILLINOIS, PLANT

PIONEER  
HI-BRED CORN COMPANY  
OF ILLINOIS  
PRINCETON, ILLINOIS



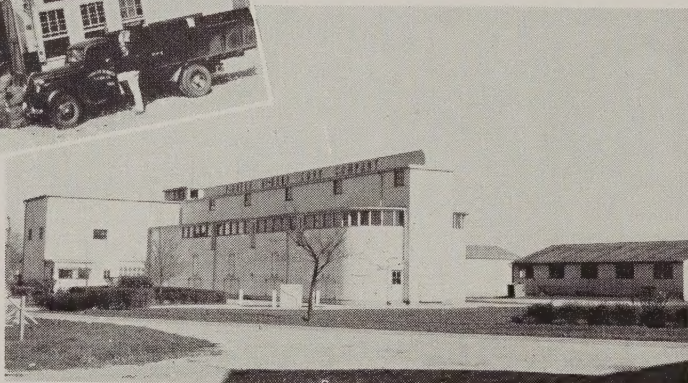
CHAMPAIGN, ILLINOIS, PLANT



PRINCETON, ILLINOIS, PLANT



FLORA,  
INDIANA, PLANT



PIONEER HI-BRED CORN COMPANY OF INDIANA  
TIPTON, INDIANA



OFFICE  
YELLOW SPRINGS

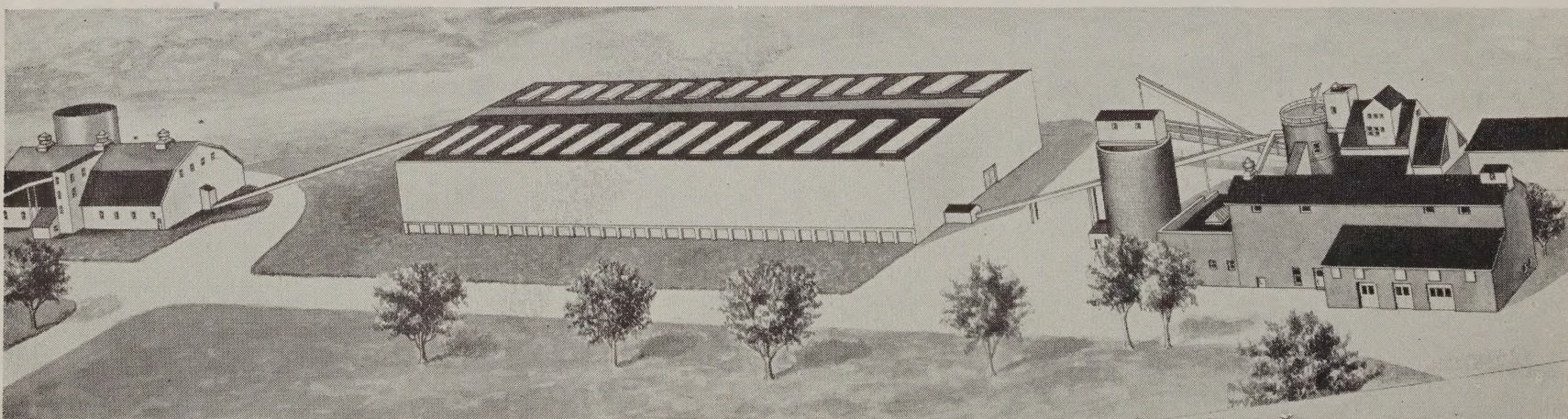


EASTERN PIONEER HYBRID CORN CO.  
YELLOW SPRINGS, OHIO

## PIONEER Parent Seed Corn Sold to These Companies

Each year . . . Pioneer has between 1,200 and 1,500 acres of the best farming land in the production of parent seed corn . . . the seed of which will produce the "final cross" crop of Pioneer the next year.

The average yield of parent seed corn . . . will vary between 5 and 15 bushels per acre . . . on good ground.



GARST AND THOMAS HYBRID CORN CO., COON RAPIDS, IOWA

BETTER PIONEER HYBRIDS... *Come from* ENDLESS RESEARCH



*The*

**BIRTHPLACE**

*of* **PIONEER**

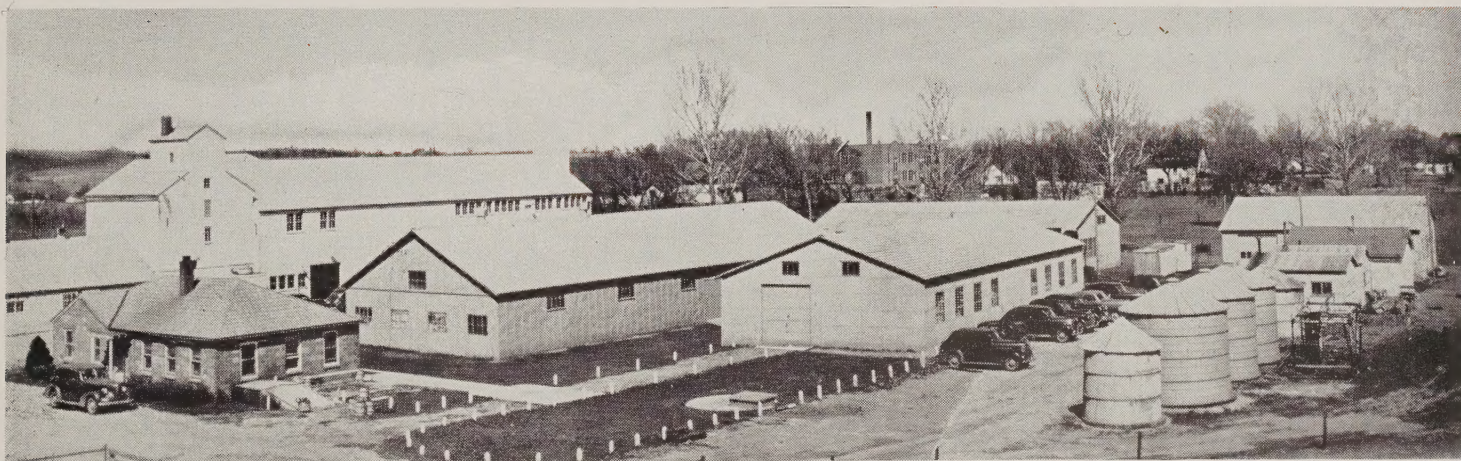
**First  
PIONEER  
Plant**



**1929  
Johnston  
Iowa**

In 1926 the company was organized. In 1929 . . . this small Pioneer plant dried a large part of the entire production of hybrid seed corn . . . in the United States.

*Today!* **PIONEER** *Johnston Plant*



PIONEER RESEARCH AND TESTING LABORATORY

The above picture is a bird's-eye view of the Johnston Pioneer plant . . . today. Modern equipment used throughout . . . is replaced with new . . . whenever a handling method can be improved.

In this new laboratory building, Pioneer scientists test and check the results of field tests on the many hundreds of Pioneer inbreds and experimental hybrids. Warm and cold germination tests are made on the commercial hybrids now being sold.

**BETTER PIONEER HYBRIDS... *Come from* ENDLESS RESEARCH**



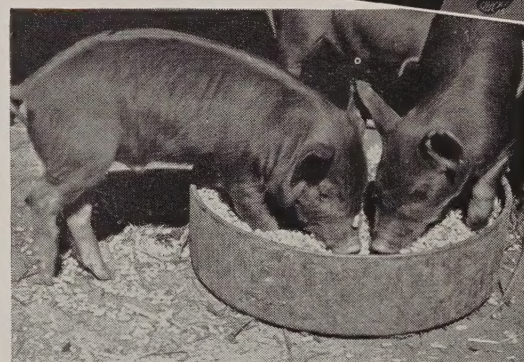


1100 Acre  
**PIONEER FARM**  
 Mainly Devoted to  
**Parent Corn Production**

The operation of the Pioneer farm is for the primary purpose of producing parent seed corn.

A dairy herd of 80 high producing Jersey cows and other animals . . . 250 feeding cattle . . . and 300 hogs, produce ample manure to furnish a liberal supply on every acre under cultivation . . . every second year.

Pioneer Hy-Line poultry farm produces hybrid chicks . . . fast becoming as popular as Pioneer corn.



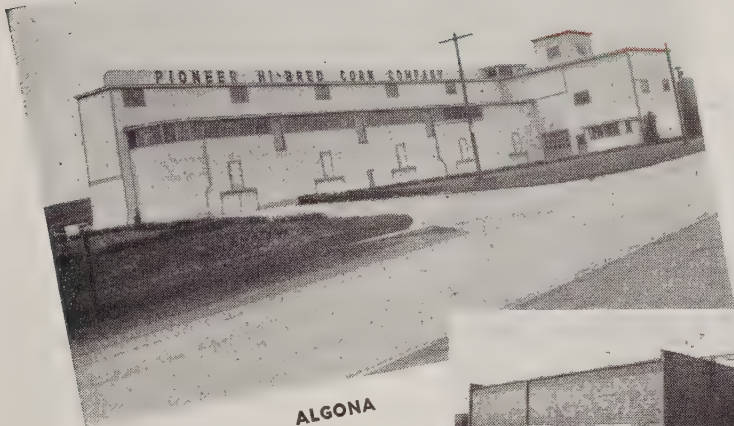
## Growth Since 1926

The need for continued Pioneer expansion . . . since 1926 . . . has been almost unbelievable . . . until today, these activities and departments are centered around the Johnston farms:

1. A modern plant for commercial seed corn.
2. General offices of corn breeding department.
3. Experimental corn breeding department.
4. Parent corn production and drying plant.
5. Cold and warm germination testing laboratory.
6. Planter plate calibration laboratory.
7. Corn disease laboratory.
8. Department of testing palatability and feeding qualities of corn (hogs, cattle and rats are used for testing purposes).
9. Offices of J. J. Newlin and Wilmer Newlin (in charge of farming operations).
10. Dairy (herd of Jerseys).
11. Hy-Line Poultry Farm.



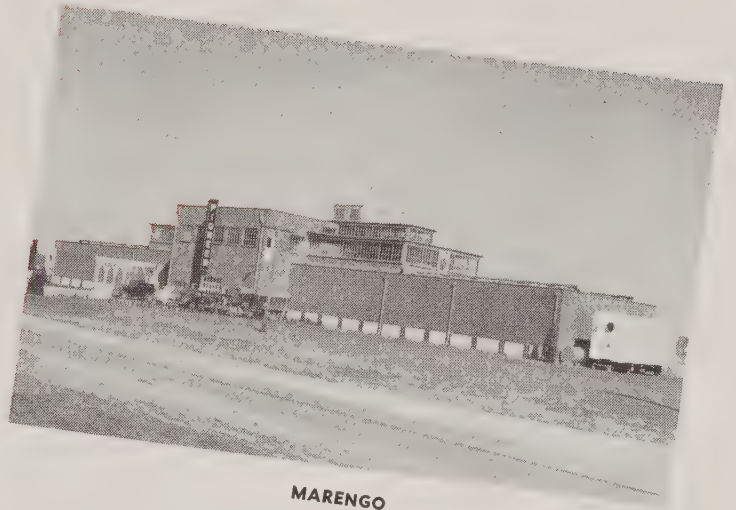
# PIONEER PLANTS... *in Iowa*



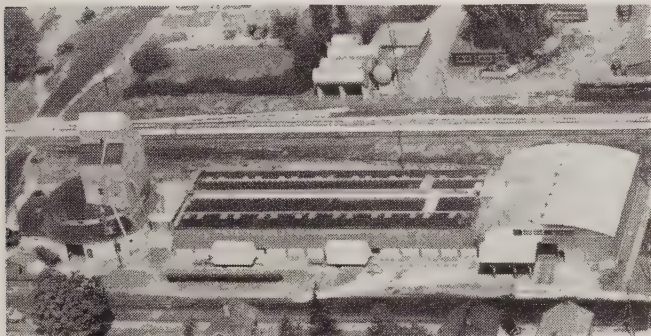
ALGONA



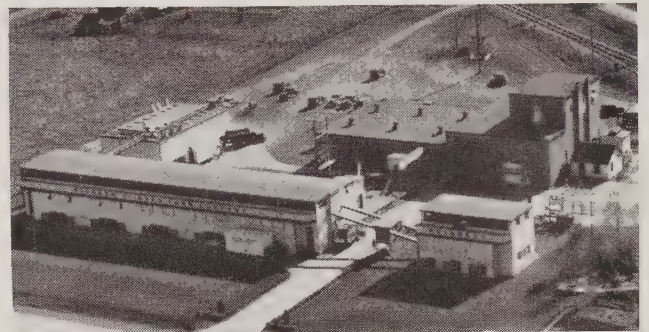
ALGONA DRYING BINS



MARENGO



DURANT



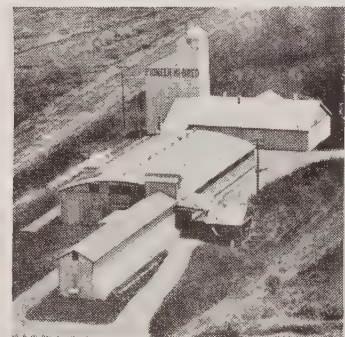
REINBECK—PLANT NO. 1



DURANT SORTING BUILDING



REINBECK WAREHOUSE



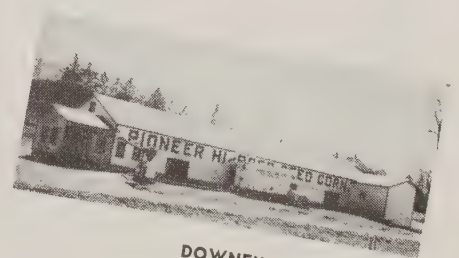
REINBECK—PLANT NO. 2



CLARION



DYSART



DOWNEY

The Pioneer plants located at Algona, Durant, Johnston, Marengo and Reinbeck are equipped for complete seed corn production.

Efficient sorting and drying plants are located at Clarion, Downey and Dysart.



# PRODUCTION...

Pioneer commercial hybrid seed is raised largely by co-operating farmers living adjacent to each of the plants.



Each farmer is under contract . . . to plant in isolated fields . . . cultivate . . . harvest . . . and deliver the corn to the plant . . . all under the supervision of the Pioneer company.

Each year approximately 10,000 acres are planted for the commercial production of Pioneer for the Iowa company.

Each commercial Pioneer seed field is planted to male and female corn. The tassels are left on the male rows . . . (at least one-fourth of the seed planted) . . . and do not produce hybrid seed. The female rows (not more than three-fourths of the rows planted) . . . which produce the hybrid seed delivered to the seed house . . . are carefully detasseled.



DETASSELED FIELD OF PIONEER



HUNDREDS DETASSEL PIONEER FIELDS

The detasseling of commercial seed fields is of utmost importance in producing quality hybrids.

During the detasseling season, all of the seed fields are covered from 10 to 15 times . . . by Pioneer supervised crews.

Pioneer employs between 2,500 and 3,000 detassellers—men . . . women . . . girls . . . and boys—who work in the commercial seed fields during the production season.



# PIONEER hybrids carefully prepared . . .

As soon as Pioneer hybrid seed reaches the plant . . . it is delivered to the sorting department . . . on large conveying belts . . . where trained workers carefully sort the corn. Damaged kernels are picked out of good ears . . . and the weak . . . chaffy . . . moldy . . . and off-type ears are discarded.



PLANT MANAGER INSTRUCTING SORTER



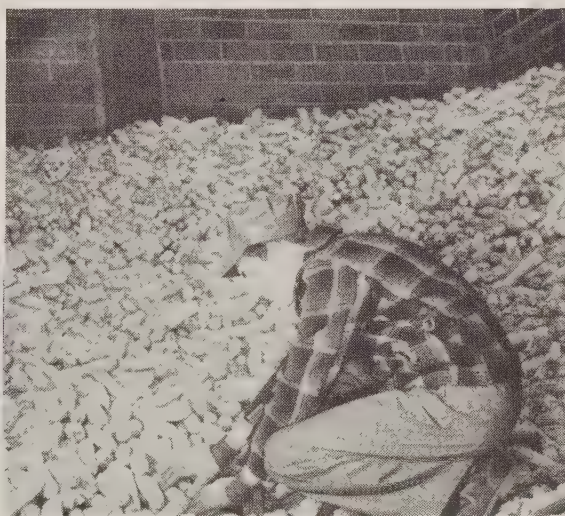
SORTERS DISCARDING DEFECTIVE EARS AND KERNELS

After the sorted corn has been re-examined by the checkers, it is conveyed to large bins . . . with slatted floors. Large, portable driers with oil burning furnaces and electrically driven pressure fans . . . force hot air uniformly through every part of the drying bins . . . at the rate of 46,000 cubic feet per minute. The warm air circulates upward through the slatted floors . . . into the corn . . . and out through doors above the corn.

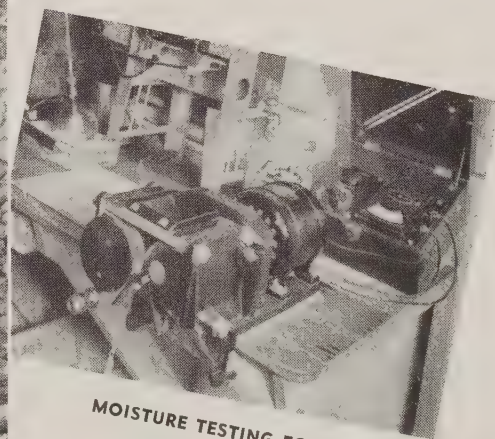
The moisture content of all Pioneer corn is reduced to 12 percent before it is removed from the bins . . . to be shelled.



PORTABLE DRIER



DRYING BIN PARTLY FILLED



MOISTURE TESTING EQUIPMENT

**2,000 to 2,500 men, women, girls and boys are employed in Pioneer plants**



# Accurately **GRADED...TESTED**

While Pioneer hybrid seed is being conveyed to the sheller from the drying bins, it is given the third and final inspection for undesirable corn.

Seed passing the final inspection . . . is fed into specially constructed shellers . . . equipped with air-blast cleaners which blow out the dust . . . dirt . . . and chaffy kernels.

After the corn has been shelled, elevators carry it to bins, located above the grading machines.

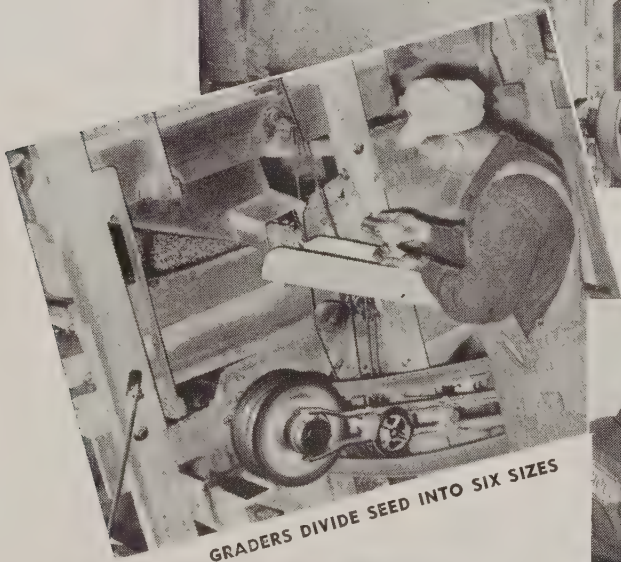


**FINAL INSPECTION BEFORE SHELLING**

Grading machines accurately divide the kernels into six uniform sizes . . . large flat . . . medium flat . . . small flat . . . large round . . . medium round . . . and small round. All of the light, chaffy, cracked kernels and tips are blown out . . . leaving only the clean, healthy seed.

Seed samples representing each day's run of dried and graded corn from each plant, are sent to Pioneer's modern seed testing laboratory . . . where it is tested for germination and for accuracy of grading.

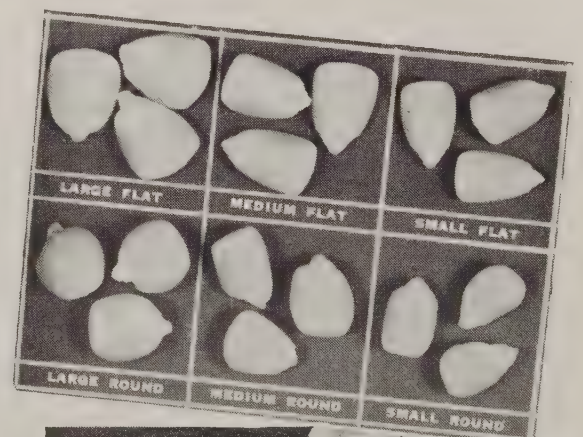
Every kernel size of each hybrid is checked in calibrating machines for proper planter plate recommendations. Each bag has a tag attached to it, listing the recommended planter plates.



**GRADERS DIVIDE SEED INTO SIX SIZES**



**CALIBRATING . . . DETERMINES PLATE SIZES**



**GRADED . . . TESTED . . . TREATED**

After the corn has been graded . . . passed the germination tests . . . it is then treated with mercury dust to aid germination during a cold, wet spring. It is then put up in bushel and half-bushel bags . . . sealed by sewing . . . ready for delivery in March and April.



**PIONEER . . . READY FOR DELIVERY**

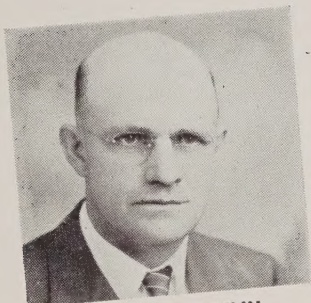


# PIONEER Seed Corn

*Sold and Distributed*

*by* **FARMER REPRESENTATIVES**

Throughout IOWA . . . MINNESOTA . . . and SOUTH DAKOTA, Pioneer Seed Corn is sold and distributed by local representatives . . . farmers who understand their neighbors' seed corn needs . . . and the corn best adapted to the various soil conditions in their territories.



**ALBERT SCRAMLIN**  
Amboy, Minnesota

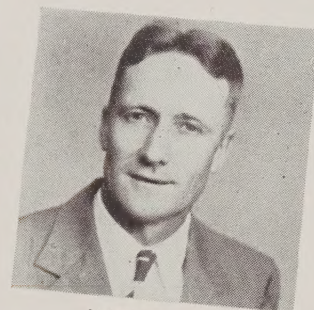
## *District Supervisors*

Meet the men who supervise Pioneer representatives.

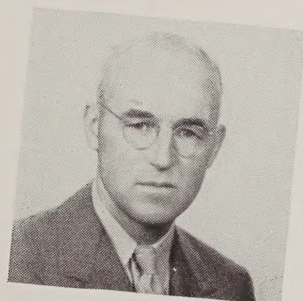
They spend their time working with the representatives in their territories . . . helping them do a better job of selling . . . instructing them on Pioneer sales policies.

During the delivery season they are in close contact with all of their men . . . keeping the supply of corn well balanced with those varieties in demand . . . transferring surplus corn to those points where it is needed.

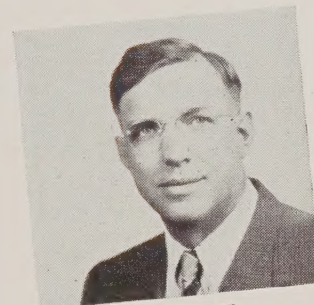
Between the selling and delivery seasons they are always busy . . . supervising detasseling crews . . . working in the plants . . . or wherever they are most needed.



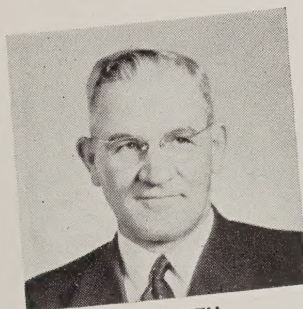
**MARION LIND**  
Manchester, Iowa



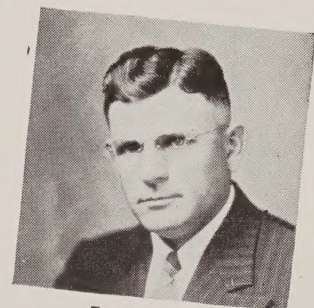
**EVERETT MILLHONE**  
Altoona, Iowa



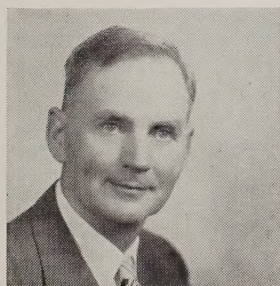
**H. N. MILLER**  
Austin, Minnesota



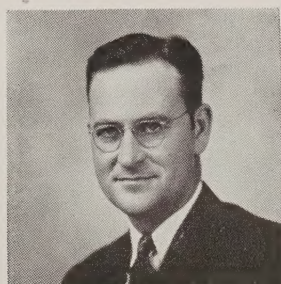
**JOHN F. SMITH**  
Sioux Falls, South Dakota



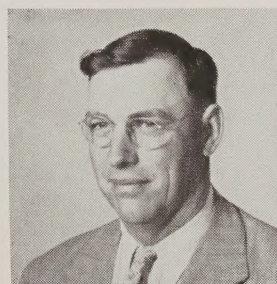
**E. H. MOGCK**  
Montevideo, Minnesota



**JOHN COREY**  
Morning Sun, Iowa



**J. E. ASKDAL**  
Minneota, Minnesota



**CHRIS H. MILLER**  
Clarion, Iowa



**H. G. HELMERS**  
Sibley, Iowa



# Successful Farmers...

## PIONEER REPRESENTATIVES

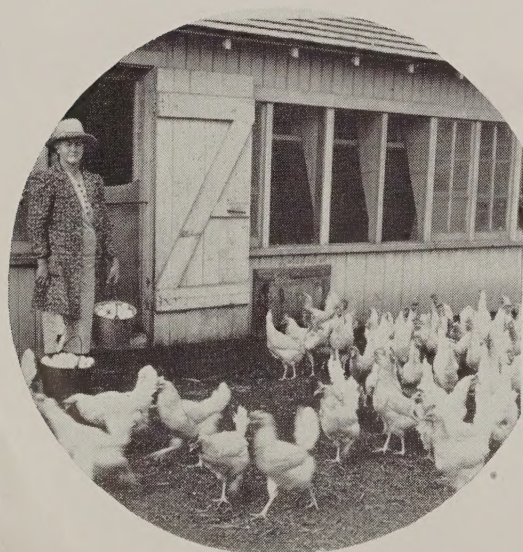
Pioneer representatives . . . most of whom never had a selling job before . . . are dependable farmers. They have territories near their own farms . . . and sell Pioneer seed corn to their neighbors and friends.

Because of their knowledge of the various local soil conditions . . . and the hybrids best adapted to each . . . they are "hybrid specialists" to whom their neighbors come for advice.

They do not raise for sale . . . sell . . . or distribute any other hybrid seed corn.



Customers find Pioneer representatives give intelligent, constructive suggestions about seed corn . . . are fair and honest in their dealings.



**BETTER PIONEER HYBRIDS... Come from ENDLESS RESEARCH**



# CONDITIONAL ORDER

By placing a conditional order the customer gets a priority for his next season's seed corn supply . . . with privilege of cancellation . . . in case the price when announced is unsatisfactory.

These orders are usually secured at the time the customer is taking delivery of the corn ordered the previous year . . . and are written up in the space provided . . . in the lower half of the customer delivery invoice (sample shown below). For new customers . . . and at other times of the year, there is another conditional order blank which is used.

CUSTOMER'S COPY

**PIONEER HYBRID SEED CORN**

REPR. NO. ORDER NO.

ORDER DATE

REPR. ADDRESS

CUSTOMER

COUNTY

TOWNSHIP

REMARKS

RECEIPT FOR PAYMENT ON PIONEER HYBRID SEED CORN									
PIONEER HYBRID	BUSHELS FLAT KERNELS			BUSHELS ROUND KERNELS			VALUE OF ORDER	PAYMENTS ON ORDER	BALANCE DUE ON ORDER
	LARGE	MEDIUM	SMALL	LARGE	MEDIUM	SMALL			

I HEREBY PLACE A CONDITIONAL ORDER FOR DELIVERY IN 19\_\_

PIONEER HYBRID	BUSHELS FLAT KERNELS			BUSHELS ROUND KERNELS			IF I HAVE NOT ASKED THE COMPANY IN WRITING TO CANCEL, OR CHANGE, THIS CONDITIONAL ORDER WITHIN FIFTEEN DAYS AFTER BEING NOTIFIED ABOUT PRICES NEXT FALL, I AGREE TO TAKE DELIVERY OF THE CORN SHOWN AT THE LEFT, AND WILL PAY FOR IT AT ANNOUNCED PRICES.
	LARGE	MEDIUM	SMALL	LARGE	MEDIUM	SMALL	

SALESMAN'S SIGNATURE

CUSTOMER SIGN HERE FOR CONDITIONAL ORDER

# SELLING PRICE

Because the cost of raising seed corn is so dependent upon the weather . . . the selling price is not announced until early in the fall.

For the entire selling season, the price of Pioneer has always been as high . . . or higher than the first announced price. If for any reason however . . . during the season . . . the price on Pioneer corn must be reduced below the price set at the beginning of the season . . . every customer buying the same grade and quality of corn . . . will pay the same price for it, regardless of when the purchase was made.

In the past . . . because of the production policy Pioneer has always maintained . . . to produce seed corn of the finest quality possible . . . the price of Pioneer has usually been as high and sometimes higher than other seed corn on the market.

Every bushel of the same hybrid and kernel size is sold at the same price per bushel.



When the weather is bad in a Cold, Wet spring



# PIONEER CORN GROWS

because of

- Strong inbred parents
- Careful shelling
- Careful sorting
- Accurate treating
- 110° temp. drying
- Proper storage

# PIONEER

*Hi-Bred Corn Company*  
DES MOINES, IOWA